In the CLAIMS:

Please amend the claims in accordance with the following:

1-3 (Cancelled)

4. (Currently Amended) An optical receiver receiving wavelength division multiplexing signals in which signal lights with different signal bandwidths are wavelength-division multiplexed, the receiver having a demultiplexing unit demultiplexing the wavelength division multiplexing signals and outputting the demultiplexed signal lights from a plurality of output ports, wherein

each output port has transmission characteristics settable such that the bandwidth of the transmission band in which the light is transmitted and a bandwidth of the non-transmission band in which the light is not transmitted are different, and the transmission band substantially matches the signal band of the signal lights that are output from said output port of the received wavelength division multiplexing signals, and

the wavelength division multiplexing signal includes a first signal light with a transmission bandwidth F1, and a second signal light with a transmission bandwidth F2, which are arrayed alternately with the frequency interval ~~F (F≥ (F1 + F2)/2)~~ , wherein F≥ (F1 + F2)/2,

said demultiplexing unit further comprising:

a first interleaver having a first input port, inputting the wavelength division multiplexing signals, and first and second output ports filtering and outputting, to the first output port, the wavelength division multiplexing signals based on the transmission characteristics where the transmission band and the non-transmission band with the bandwidth 2F are alternately repeated, and filtering and outputting, to the second output ~~ports~~ port, the wavelength division multiplexing signals based on transmission characteristics opposite to the transmission characteristics for the first output port;

a second interleaver having a second input port inputting the signal lights output from first output port, and third and fourth output ports, filtering and outputting to the third output port, the signal lights output from the first output port based on the transmission characteristics where the transmission band and the non-transmission band with the bandwidth 2F are alternately repeated, and filtering and outputting to the fourth output port, the signal lights output from the first output port based on the transmission characteristics opposite to the transmission characteristics for the third output port; and

a third interleaver having a third input port inputting the signal lights output from

the second output port, and fifth and sixth output ports filtering and outputting, to the fifth output port, the signal lights output from the second output port based on the transmission characteristics where the transmission band and the non-transmission band with the bandwidth 2F are alternately repeated, and filtering and outputting to the sixth output port, the signal lights output from the second output port based on transmission characteristics opposite to the transmission characteristics for the fifth output port,

wherein the central frequency of the transmission bands of the first, second and third interleavers are shifted from the central frequency of the signal ~~band~~ bands of the ~~first and~~ second signal lights so that the overlapping portion of the transmission bands of the first and third output ports includes the signal ~~band~~ bands of a first set of the second signal ~~light~~ lights, the overlapping portion of the transmission bands of said first and fourth output ports includes the signal ~~band~~ bands of a first set of the first signal ~~light~~ lights, the overlapping portion of the transmission bands of the second and fifth output ports includes the signal ~~band~~ bands of a second set of the first signal lights, and the overlapping portion of the transmission bands of the second and sixth output ports includes the signal bands of a second set of the second signal lights.

5. (Previously Amended) The optical receiver according to Claim 4, wherein:

the central frequency of the transmission band of said first output port shifts F1/2 to the lower frequency side from the central frequency of the signal band of said second signal light, and

the central frequency of the transmission band of said third and fifth output ports shifts F1/2 to the higher frequency side from the central frequency of the signal band of said second signal light.

6. (Currently Amended) The optical receiver according to Claim 4, wherein said demultiplexing unit further includes ~~a demultiplexer~~ demultiplexers demultiplexing signal lights that are output from said third to sixth output ports to signal lights with respective wavelengths.

7-18 (Cancelled)

19. (Currently Amended) An optical transmitter wavelength division multiplexing and transmitting a plurality of signal lights with different signal bandwidths, comprising:

a multiplexing unit having a plurality of input ports and filtering to multiplex a plurality of

signal lights input from the plurality of input ports, respectively based on the transmission characteristics of each of the plurality of input ports, wherein the plurality of signal lights comprises:

a first signal light group consisting of a plurality of signal lights each having a transmission bandwidth F1 and being arrayed with the frequency interval 4F;

a second signal light group consisting of a plurality of signal lights each having transmission bandwidth F2 and being arrayed at the positions at frequency interval F ~~(F≥ (F1 + F2)/2)~~ ,wherein F≥ (F1 + F2)/2 from the central frequency of each signal light constituting the first signal light group;

a third signal light group consisting of a plurality of signal lights each having transmission bandwidth F1 and being arrayed at the positions at frequency interval 2F from the central frequency of each signal light constituting the first signal light group, and

a fourth signal light group consisting of a plurality of signal lights each having said transmission bandwidth F2 and being arrayed at positions at frequency interval 2F from the frequency of each signal light constituting the second signal light group,

the multiplexing unit further comprises:

a first interleaver which further comprises a first port for inputting the first signal light group with the transmission characteristics in which the transmission band and the non-transmission band with the bandwidth ~~F~~ 2F are alternately repeated, and a second port inputting the second signal light group with opposite transmission characteristics from the first port, and multiplexes and outputs the first and second signal light groups which were input to the first and second ports, respectively;

a second interleaver which further comprises a third port for inputting the third signal light group with transmission characteristics ~~wherein~~ which the transmission band and the non-transmission band with the bandwidth ~~F~~ 2F are alternately repeated, and a fourth port inputting the fourth signal light group with the opposite transmission characteristics from the third port, and which multiplexes and outputs the third and fourth signal light groups which were input to the third and fourth ports; and

a third interleaver which further comprises a fifth port for inputting signal lights from the first interleaver with the transmission characteristics where the transmission band and the non-transmission band with the bandwidth ~~F~~ 2F are alternately repeated, and a sixth port for inputting signal lights from the second interleaver with the opposite transmission characteristics from the fifth port, and which multiplexes and outputs the signal lights which were input to the fifth and sixth ports,

wherein the central frequencies of the transmission bands of the first, second and third interleavers are shifted from the central frequency of each signal light of the ~~first and~~ second and fourth signal light groups so that the overlapping portion of the transmission bands of the first and fifth ports includes the signal ~~band~~ bands of each signal light of the first signal light group, the overlapping portion of the transmission bands of the second and fifth ports includes the signal ~~band~~ bands of each signal light of the second signal group, the overlapping portion of the transmission bands of the third and sixth ports includes the signal ~~band~~ bands of each signal light of the third signal light group, and the overlapping portion of the transmission bands of the fourth and sixth ports includes the signal ~~band~~ bands of each signal light of the fourth signal light group.

20. (Currently Amended) The optical transmitter according to Claim 19, wherein:

the central frequency of the transmission band of the first and fourth ports shifts F1/2 to the higher frequency side from the central frequency of each signal light of the second signal light group, and

the central frequency of the transmission band of the fifth ports shifts F1/2 to the lower frequency side from the central frequency of each signal light of the ~~second~~ fourth signal light group.

21. (Previously Amended) The optical transmitter according to Claim 19 wherein:

the multiplexing unit further comprises:

a first multiplexer multiplexing each signal light of the first signal light group, generating the first signal light group and inputting the same to the first port;

a second multiplexer multiplexing each signal light of the second signal light group, generating the second signal light group, and inputting the same to the second port;

a third multiplexer multiplexing each signal light of the third signal light group, generating the third signal light group, and inputting the same to the third port; and

a fourth multiplexer multiplexing each signal light of the fourth signal light group, generating the fourth signal light group, and inputting the same to the fourth port.

22-31 (cancelled)